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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,447	04/14/2004	Steve Karaga	051110-1010	6607

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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT

PAPER NUMBER

3677

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,447	<b>Applicant(s)</b> KARAGA ET AL.	
	<b>Examiner</b> Jeffrey Sharp	<b>Art Unit</b> 3677	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Claims***

- [1] Claims 1-30 are pending.

### ***Election/Restriction***

[2] Applicant's election with traverse of claims 27-30 in the reply filed on 24 February 2005 is acknowledged. The traversal is on the ground(s) that a method of driving a screw using a nail gun requires the same search as a screw having specific structural limitations. This is not found persuasive, because the method claims may be practiced with screws having very different structural limitations, and therefore a broader and more burdensome search would be required.

The requirement is still deemed proper and is therefore made FINAL.

Claims 27-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 24 February 2005.

In the event that one of the claims drawn to a screw (product) are held to be allowable at any time during prosecution, Applicant is entitled to the rejoinder of method claims 27-30 as a matter of right, so long as the method claims include all of the limitations of the allowable product claim. See MPEP §821.04.

***Specification***

[3] The disclosure is objected to because of the following informalities:

The abstract, line 7, the phrase '*The thread further has thread having*' should be re-written --The threads of the thread section have--.

The specification shows a range '*0.111-118 inches*' as the screw pitch in paragraph 0019. Examiner believes the Applicant meant --0.111-0.118 inches--, as it is impossible for a screw to have a 118 inch pitch, if it is loaded into a conventional nail gun.

Appropriate correction is required.

***Claim Objections***

[4] Claims 4, 5, and 22 are objected to because of the following informalities:

Claim 4, there is insufficient antecedent basis for the limitation, '*the drive catalyst*'.

Claims 5 and 22, the range '*0.111-118*' should be --0.111-0.118-- as indicated in claim 13, as it is impossible for a screw to have a 118 inch pitch, if it is loaded into a conventional nail gun.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

[5] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[6] Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rockenfeller US-4,572,720 in view of Takasaki et al. US-6,302,631 and Gabriel et al. US-5,149,237.

Rockenfeller substantially teaches a screw to be driven by a hammer or pneumatic nail gun (col 2 lns 9-15), comprising: a tapered frustoconical head (3) having release engagement means (3') and a reinforcement 'rib' (4) underneath the head, an unthread section (8) between head and a thread section (7), a pyramidal point (11). Refer to Figure 7, col 2 lines 37-42, col 3 lns 53-56, and col 3 lns 64-68. It is obvious to those of ordinary skill in the art, that if screws are intended to be used in a nail gun, the screws would be collated as taught by the old and well known.

However, Rockenfeller fails to disclose expressly, four nibs spaced 90° apart under the head in lieu of the reinforcement 'rib' (4) taught by Rockenfeller, in order to strengthen and support the head when used in a pneumatic hammer. Rockenfeller is silent as to a phosphate coating, and silent as to specific pitch dimensions.

Takasaki et al. as well as the old and well known, teach four nibs (4) spaced 90° under the head to act as drill edges so as to not form cracks in the substrate. These nibs also inherently provide additional strength and structure to the head. See also, US-6,698,987 to Dicke, US-6,394,725 to Dicke, and US-4,655,661 to Brandt, which also teach four nibs spaced 90° under the head.

Gabriel et al. teach advantageous phosphate coatings on collated fasteners to prevent corrosion, and also discloses additional coatings that may decrease penetration force, while

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increasing withdrawal force (col 2 lns 28-32). The fasteners taught by Gabriel et al. are intended for use in a nail driver tool.

At the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the rib (4) on the fastener taught by Rockenfeller, to comprise four ribs under the head as suggested by Takasaki et al., in order to decrease splintering of the wood, enable a better biting gripping surface, provide a means for anti-rotation, or to strengthen the head to be suited for hammer blows.

At the time of invention, it would have been further obvious to one of ordinary skill in the art, to add a phosphate and/or other '*drive catalyst*' to the fastener taught by Rockenfeller, as suggested by Gabriel et al., in order to prevent corrosion, decrease penetration resistance, and increase resistance to withdrawal.

As for the size limitations of Claims 1, 5, 9, 11, 13, 17, 20, and 22, those of ordinary skill in the art would appreciate that a modification such as a mere change in size of a component would be obvious. A change in size is generally recognized as being within the level of ordinary skill in the art as a matter of design choice. *In re Rose*, 105 USPQ 237 (CCPA 1955). See also, MPEP § 2144.04 which states: *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.). In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform

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differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See, for example, US-5,927,035 to Haytayan col 3 lns 27-30 which makes obvious, a tip angle of 35-37°, and a long pitch (herein, a design choice of 60-63°).

### *Conclusion*

[7] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

Godfrey US-86,832 teaches that it is obvious to drive a screw using hammering means. The screw comprises a conical point, tapered head, unthread section, and thread section.

Screws, to be turned in by a rotating tool, cannot be applied with sufficient quickness...

Now, to obviate all of these difficulties, and at the same time to secure or retain the advantages derived from using screw-threaded fastenings, which may be driven by percussion, and which will turn as driven, (that is to say, to so make a screw-threaded blow-driven metal sole-fastener, that it cannot turn or be turned after being driven...

It is in this tapering point and plain-formed head, in combination with a shank having a screw-thread, so cut or formed as to enable the fastening to be driven by percusslon, and to cause it to turn as it is driven, that my invention consists.



Godfrey US-86,832

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**Jones US-313,078** teaches points having a cone shape and four-sided pyramid shape (pg 1 lns 89-91) in combination with threads and heads of any type (pg 1 lns 50-51).

**Sloan US-276,541** teaches a cone tip (a), head (B), unthread section (A, lns 15-24), thread section (c) having a pitch within an obvious reach of 60-63° (lns 57-62).

**Dunn et al. US-83,699** teaches that it would be obvious to modify the threads (A) of a thread section as a matter of design choice.

The rib or feather may be of any desired form, but its sides should form an acute angle...

The pitch or spiral, as before stated, may be such as to allow the spike or nail to be driven into the wood with a hammer, or be forced in by a longitudinal motion, without breaking or forcing the rib or feather from its groove.

These spikes and nails are not intended for being turned into the wood by any tool or device, but only to be driven by the hammer or sledge.

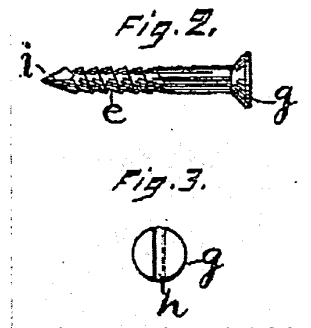
**Dunn et al. US-83,699**

**Huang US-2004/0042875** states "Nail guns are used to inject screws" (paragraph 0002).

**Jones US-355,825** teaches a cone-shaped or diamond-shaped point (i, pg 1 lns 73-75) in combination with a thread section (e), tapered head (g), unthread section (f), and engagable unscrew means (h). Jones uses a lesser pitch that would be within a non-obvious reach of 60-63°; however, still intends the screw to be driven via hammer blow, and released by unscrewing (pg 1 lns 85-89).



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Jones US-355,825

US 0179152 A	USPAT	Bless
US 0354154 A	USPAT	Libbey
US 0510035 A	USPAT	Lipe
US 0791442 A	USPAT	Anderton
US 1274923 A	USPAT	Meyer
US 1326910 A	USPAT	FREDERICK BUTTERFIELD PERCY
US 1485202 A	USPAT	HEYMAN ROSENBERG
US 1545471 A	USPAT	HEYMAN ROSENBERG
US 1698951 A	USPAT	HOLMES EDWARD C
US 1912099 A	USPAT	HEYMAN ROSENBERG
US 2075411 A	USPAT	VON MERTENS ERNEST K
US 2183243 A	USPAT	FREIEDA MEERSTEINER
US 2226006 A	USPAT	MAZE JAMES S
US 2558379 A	USPAT	PHIPARD JR HARVEY F
US 2944261 A	USPAT	SEITZ GEORG I et al.
US 3121366 A	USPAT	ADOLF PANZER
US 3696701 A	USPAT	Readyhough; Peter A.
US 5101697 A	USPAT	Fishback; Gary M.
US 5375957 A	USPAT	Golledge; Brad F.
US 5660090 A	USPAT	Deri; Yosef
US 5709332 A	USPAT	Coop; Jeffrey D.
US 5749692 A	USPAT	Kish; Frederick A. et al.
US 5904284 A	USPAT	Lin; Joe
US 20020071741 A1	US-PGPUB	Oswald, Robert C.
US 20040047713 A1	US-PGPUB	Jung, Young Jae
US 6698987 B1	USPAT	Dicke; Robert
US 6676353 B1	USPAT	Haytayan; Harry M.
US 6558097 B2	USPAT	Mallet; John Christopher et al.
US 6551006 B2	USPAT	Kincaid; Jeffrey L. et al.
US 6394725 B1	USPAT	Dicke; Robert

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US 6290444 B1	USPAT	Dicke; Robert
US RE36741 E	USPAT	Walther; Uli et al.
US 5772376 A	USPAT	Konig; Gottfried
US 5683217 A	USPAT	Walther; Uli et al.
US 5516248 A	USPAT	DeHaitre; Lon
US 5199839 A	USPAT	DeHaitre; Lon
US 4655661 A	USPAT	Brandt; Horst
US-5,927,035	USPAT	Haytayan

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[8] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (703) 305-0426. The examiner can normally be reached on 7:30 am - 5:00 pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (703) 306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



ROBERT J. SANDY  
PRIMARY EXAMINER